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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,799	11/02/2001	Richard M. Podhajny	525.1023	4799

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EXAMINER	
YOUNG, MICAH PAUL	

ART UNIT	PAPER NUMBER
1615	

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/003,799	PODHAJNY, RICHARD M.	
	Examiner	Art Unit	
	Micah-Paul Young	1615	

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *1-22,32,33 and 35-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-31 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-38* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-22, 32 and 33, drawn to a method of coating packaging material with anti-microbial agents, classified in class 427, subclass 2.1.

II. Claims 23-31 and 34, drawn to antimicrobial packaging material, classified in class 424, subclass 412.

III. Claims 35-38, drawn to a zeolite composition, classified in class 106, subclass 467.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make other and materially different products, such as antimicrobial doors or building material. Alternatively, the product as claimed can be made by another and materially different process such as applying the coating in a dry form and fusing to the surface, instead of applying in dispersion and then drying.

3. Inventions III and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the

product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the antimicrobial composition can be used in a materially different process of using the product, such as a laminate instead of a printing material.

4. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and have different modes of operation, function, and effects. The packaging material of Group II is unrelated to the dispersion of Group III. They are independent products.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for each Group is not required for the others, restriction for examination purposes as indicated is proper.

7. During a telephone conversation with Michael Mercanti on 2/24/03 a provisional election was made with traverse to prosecute the invention of Group II, the antimicrobial packaging, claims 23-31 and 34. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-22, 32-22, and 35-38 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

8. Claim 25 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim is dependent from claims 23, which recites that the zeolites comprise "from about 0.1 to about 5% by weight of said coating layer". Claim 25 simply repeats the limitations that the "zeolites comprise from about 0.1 to about 5% by weight of the coating layer".

9. Claim 30 objected to because of the following informalities: misspelling of packaging as *packaging* in line 2 or claim 30. Appropriate correction is required.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 23 – 31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niira et al (4,938,958 and 5,556,699) in view of Quick et al (USPN 4,595,611) and Lindgren et al (USPN 5,603,997). The claims are drawn to a polymeric packaging material with antimicrobial properties. The claims recite that on at least one surface of the material there is a layer comprising an antimicrobial zeolite composition, comprising from about 0.1 to 5% of the coating layer. Claims 27 –29 further limit the polymeric material. Claim 31 recite the thickness of the coating layer.

13. Niira et al ('958) discloses an antimicrobial zeolite composition and resin comprising said composition. The resin composition comprises a hydrophobic polymer including polyesters, polyamides and polyvinyl chlorides (col. 4, lin. 24 – 33). The zeolite composition can be comprised of various metal ions including silver and copper (col. 3, lin. 5 – 15). The resin is prepared either by incorporating the zeolite composition within the resin or coating it on the surface of the plastics, and is present in the coating in a concentration from 0.1 to 3% wt (col. 34 – 45). The invention can be incorporated into and applied in the paper making arts including paper packaging (col. 5, lin. 4 – 20). Also, as well known in the art, zeolites can vary in particle size from 1 – 5 microns depending on which particular type are being used (col. 5, lin. 25 – 39).

Niira et al ('699) discloses an antimicrobial zeolite coating film. The film can be incorporated into or on, resins and polymers such as polyester (col. 4, lin. 24 – 44). The reference discloses that coating films containing silver have a concentration from 0.1-5% (col. 3, lin. 24-44). The coating film can be as thick as 3 – 6 microns when applied to the surface of a substrate (col. 4, lin. 59 – 65). The coatings can be used in food packaging materials (Abstract).

The reference teaches many essential elements of the claimed invention. The reference however lacks a teaching of the pore size of the zeolites composition, and an explicit disclosure of the thickness of the applied antibacterial zeolite composition. Also the reference is silent to the orientation of the applied zeolite composition. Also the reference is silent to whether the polyester is sulfonated or not.

With regard to the orientation of the coating layer (discontinuous, continuous), it is the position of the examiner that the limitation is non-critical to the patentability of the invention. It is also the position of the examiner that the orientation of the layer (discontinuous or continuous) would be well within the level of ordinary skill in the art to adjust. It would be obvious to a skilled artisan to apply the layer in whichever pattern best suited the application of the packaging material. These two limitation can be achieved through routine experimentation, and modification by those of ordinary skill it the art.

With regard to the pore size of the zeolite it is the position of the examiner that such limitations so not impart patentability over the prior art. Applicant ahs expressed in the specification that the limitations such as particle size and pore size are merely the preferred embodiments, and are hence non-critical to the overall patentability of the invention. When taken into consideration that both Niira references achieves the same goal of a coated polymer resin with antimicrobial qualities, the particular limitations such as particle size, and pore size are non-critical and would be obvious to a skilled artisan. Barring a showing of unexpected results regarding the pore size of the claimed invention, the claimed invention cannot be deemed patentably distinct over the prior art.

With regard to the polyester of Niira, the reference suggests the use of polyester, yet does not disclose if the polyester is sulfonated. Quick et al discloses a sulfonated polyester resin, which can be formed in to packaging material for food products (Abstract). Though the selection of sulfonated polyester is well within the level of ordinary skill in the art, Quick established that sulfonated polyesters are known to be useful in food packaging materials (examples).

With regard to the hydrophobicity of the zeolite-coating compound, it is within the level of skill in the art to prepare a hydrophobic coating composition. Also the application and use of such coatings are known in the art as seen in Lindgren et al (Abstract). In the art of food packaging preparation hydrophobic metallic zeolite compositions are used to repel water and reduce mildew on the resulting packaging material (col. 5, lin. 13 – 47).

With regard to claim 34, which is dependent from a non-elected group and recites that the packaging material is made by a particular method, this claim is deemed a product-by-process claim and does not distinguish the claim from the prior art. The prior art provides a composition with identical components, although produced by a different process; the burden is shifted to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. See *In re Marosi,* 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

With these things in mind one of ordinary skill in the art would have been motivated to combine the teachings of the of the prior art. A skilled artisan would have been motivated to combine the use the polyester of Quick with a hydrophobic metallic zeolite composition suggested and taught by both Niira ('699 and/or '958) and Lindgren in order to impart antibacterial and water repellant properties on a possible packaging material. It would have been

obvious to one of ordinary skill in the art, at the time of the invention to combine the teachings as such with an expected result of an antimicrobial, water repellant polymeric material useful for food packaging.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohmae et al (USPN 5,208,016), Miyata (USPN 5,741,526), and Jacobson et al (USPN 5,503,840) all disclose antimicrobial metallic zeolite coating compositions. These compositions can be applied to polymeric substrates in order to impart antimicrobial properties.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Micah-Paul Young whose telephone number is 703-308-7005. The examiner can normally be reached on M-F 7:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7648 for regular communications and 703-746-7648 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1234.

THURMAN K. PAGE
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